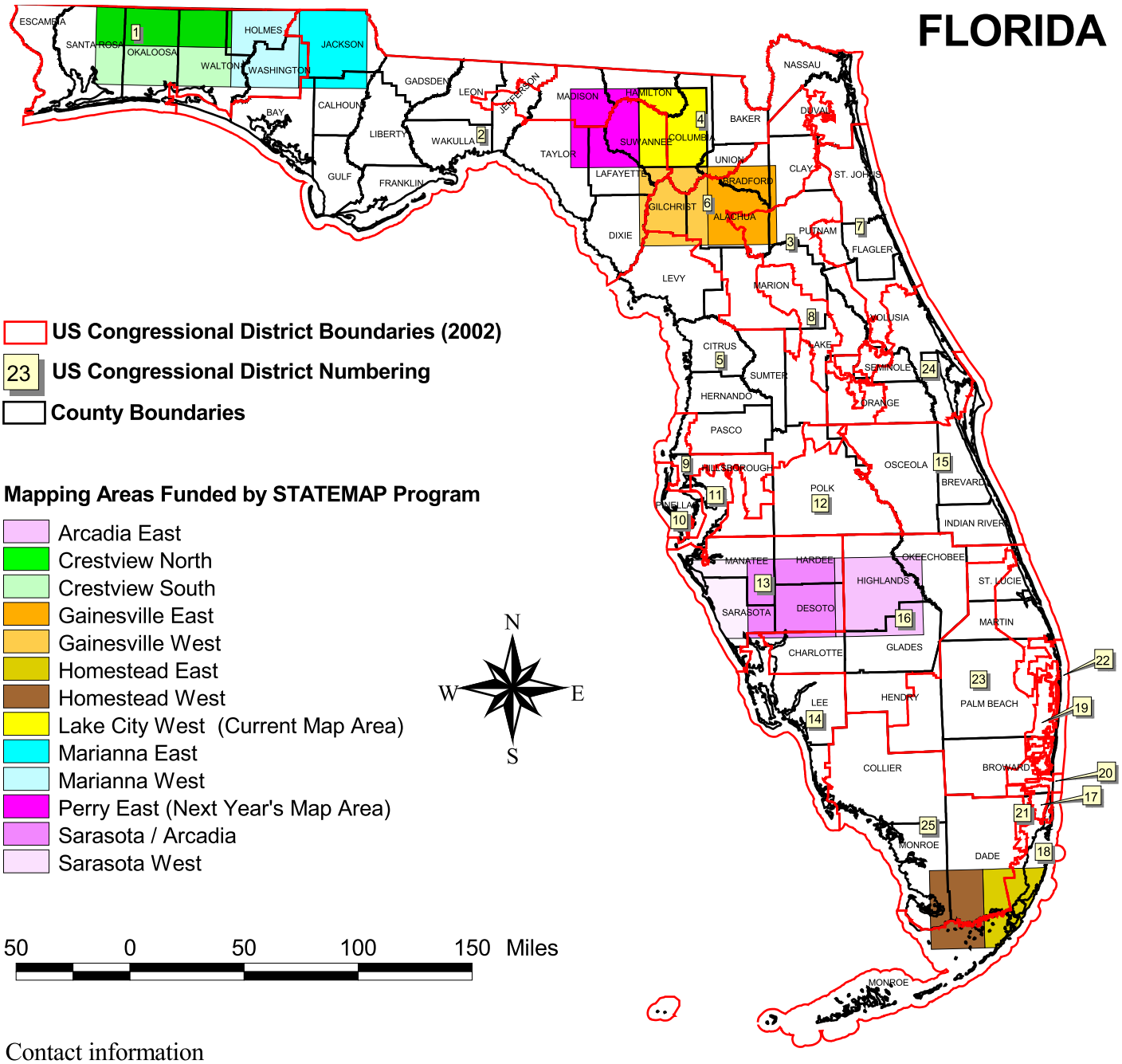
Association of American State Geologists in cooperation with United States Geological Survey

National Cooperative Geologic Mapping Program

FLORIDA



US Congressional District Boundaries (2002)

23 **US Congressional District Numbering**

County Boundaries

Mapping Areas Funded by STATEMAP Program

- Arcadia East
- Crestview North
- Crestview South
- Gainesville East
- Gainesville West
- Homestead East
- Homestead West
- Lake City West (Current Map Area)
- Marianna East
- Marianna West
- Perry East (Next Year's Map Area)
- Sarasota / Arcadia
- Sarasota West

N W E S

50 0 50 100 150 Miles

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STATUS OF STATEMAP GEOLOGIC MAPPING IN FLORIDA

Fed. FY	Project Title and Scale	Federal Dollars	State Dollars	Total Dollars
1994	Geologic map of the eastern portion of the USGS 1:100,000 scale Homestead quadrangle	$30,000	$30,000	$60,000
1995	Geologic map of the western portion of the USGS 1:100,000 scale Homestead quadrangle	$30,000	$30,000	$60,000
1996	Geologic map of the western portion of the USGS 1:100,000 scale Sarasota quadrangle	$70,000	$70,000	$140,000
1997	Geologic map of the eastern portion of the USGS 1:100,000 scale Sarasota quadrangle and the western portion of the 1:100,000 scale Arcadia quadrangle	$95,547	$95,547	$191,094
1998	Geologic map of the eastern portion of the USGS 1:100,000 scale Arcadia quadrangle	$104,414	$104,414	$208,828
1999	Geologic map of the northern portion of the USGS 1:100,000 scale Crestview quadrangle	$105,000	$105,000	$210,000
2000	Geologic map of the southern portion of the USGS 1:100,000 scale Crestview quadrangle	$106,021	$106,021	$212,042
2001	Geologic map of the western portion of the USGS 1:100,000 scale Marianna quadrangle	$120,990	$120,990	$241,980
2002	Geologic map of the eastern portion of the USGS 1:100,000 scale Marianna quadrangle	$134,606	$134,606	$269,212
2003	Geologic map of the western portion of the USGS 1:100,000 scale Gainesville quadrangle	$125,761	$125,761	$251,522
2004	Geologic map of the eastern portion of the USGS 1:100,000 scale Gainesville quadrangle	$119,027	$119,027	$238,054
2005	Geologic map of the western portion of the USGS 1:100,000 scale Lake City quadrangle	$108,780	$108,780	$217,560
2006	Geologic map of the eastern portion of the USGS 1:100,000 scale Perry quadrangle	$110,835	$110.835	$221,670
	TOTALS	**$1,260,981**	**$1,260,981**	**$2,521,962**

The Florida Geological Survey (FGS) receives federal funding from the STATEMAP Program, a component of the National Cooperative Geologic Mapping Program, for the purpose of conducting detailed geologic mapping in the state. For the 2006-2007 STATEMAP project, the FGS has been funded to map the eastern portion of the Perry 1:100,000 scale quadrangle.

Like much of Florida, the area in and around the Perry 1:100,000 scale quadrangle is experiencing degradation of groundwater quality as nearby cities go through urban sprawl. As populations of the cities spread out, development pressure in the region to have many of these areas re-zoned from agricultural use to higher-density urban use is increasing. Over one-half of the 2006-2007 study area is located within the Suwannee River basin, one of the largest and most ecologically unique river systems in the southeastern United States. The lack of detailed geologic mapping in the area poses a problem for planning agencies and resource management and protection. In nearby areas, these types of detailed geologic maps have often been used by a variety of agencies and companies to help solve problems in the state.

For example, Advanced Geospatial, Inc. (AGI), a private company working on Floridan Aquifer Vulnerability Assessment (FAVA) models for various state and local government clients, has utilized data from several FGS STATEMAP products in their modeling processes. Data pertaining to control points, new cores drilled for the various projects, and field samples has been made available to the modelers over the last several years' worth of STATEMAP mapping in Florida. AGI personnel have used this data to further refine their models and fill in data gaps in the various study areas.

In another case, the Columbia County Commission recently sought to expand its urban development area into rural areas to accommodate growth in the county. The FGS was asked by the Florida Department of Community Affairs (DCA), the state land planning agency, to provide geologic maps in order to help determine if the areas around the city were environmentally suitable for increased urban development. The Comprehensive Growth Management Plan allows a housing density of one unit per five acres, where the outlying areas utilize on-site septic systems for wastewater treatment. Pressure from development is pushing Columbia County to examine the possibility of expanding its urban development area past its current boundaries.

The primary drinking water aquifer, the Floridan Aquifer System (FAS), is highly vulnerable to infiltration by polluted surface-water runoff in parts of the county due to the presence of karst, mainly sinkholes and "swallets" (stream-to-sink features). The Lake City area also falls within the springshed of a first magnitude spring, Ichetucknee Springs, which provides a great benefit to the local economy through tourism. Water quality has been declining in the Ichetucknee Springs system steadily and may be even more negatively impacted if urbanization continues south of Lake City.

Detailed geologic maps produced under the STATEMAP program were helpful in identifying areas where increased development would pose a threat to the aquifer. The FGS was asked to put together a map of the swallets and their drainage basins, the geology, and the geomorphology of the area so that the County Commission and the DCA could use it as a tool in making their decisions on future growth management in the region. Recent geologic maps produced for STATEMAP program projects in the area have contributed to the understanding of the hydrogeologic characteristics of the FAS in this geologically complex area.